DIAGNOSING POST-TRAUMATIC STRESS DISORDER

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During the course of a lifetime approximately half of all American men and women will be exposed to at least one traumatic event such as assault, military combat, an industrial or vehicular accident, rape, domestic violence, or a natural disaster such as an earthquake. (Rates are much higher, of course, in countries at war and in those subjected to oppressive governments or state terrorism.) Although most Americans will be able to absorb the psychological impact of such an experience and resume their normal lives, a sizable minority (approximately 8%), will suffer significant distress or impairment in social, occupational or other important areas of functioning (Kessler, Sonnega, Bromet, et al., 1995).

When such post-traumatic symptoms or impairments in everyday functioning persist for at least a month and sometimes for life, it is called Post-Traumatic Stress Disorder (PTSD). PTSD has been recognized by many other names by writers since antiquity and by modern psychiatry since the late 1800s. It was defined as a distinct psychiatric diagnosis in 1980 when the American Psychiatric Association published its revised diagnostic manual, the Diagnostic and Statistical Manual of Mental Disorders- Third Edition (DSM-III) (American Psychiatric Association, 1980). As a result, for almost 20 years clinicians have utilized PTSD as a diagnostic tool and developed corresponding treatments.

Before discussing PTSD, however, we must first turn our attention to our definition and growing understanding of trauma.

WHAT IS TRAUMA?

When "trauma" was first introduced as a construct in the DSM-III's diagnostic criteria for PTSD (American Psychiatric Association, 1980) it was defined as a catastrophic stressor that "would evoke significant symptoms of distress in most people." It was stated that trauma "is generally outside the range of usual human experience." In other words, trauma was a rare and overwhelming

event that differed qualitatively from "common experiences such as bereavement, chronic illness, business losses or marital conflict." Traumatic events cited in DSM-III included: rape, assault, torture, incarceration in a death camp, military combat, natural disasters, industrial/vehicular accidents, torture, or exposure war/civil/domestic violence. Although the list of potential traumatic events has not changed greatly since 1980, our understanding about trauma has changed significantly particularly in relation to the prevalence of catastrophic events and the psychological impact of those events. Specifically:

Catastrophic events are not rare

Research in the United States has shown that over half of all American men (60.7%) and women (51.2%) are likely to be exposed to at least one catastrophic event during their lives (Kessler et al., 1995). The prevalence of exposure to such events is obviously much higher in countries torn by war, civil strife, genocide, state-sponsored terrorism or other forms of violence. It can be safely assumed that people are more likely to have been exposed to catastrophic events in countries such as Rwanda, Iraq, South Africa, and the former Yugoslavia than in the USA. Therefore we have learned that exposure to catastrophic stressors is not rare and is not outside the range of usual human experience. Unfortunately, exposure to catastrophic stress is a common fact of life.

Trauma is not just an external event

Initially it was thought that trauma could be defined exclusively in terms of catastrophic events that happened to an individual who was in the wrong place at the wrong time. As initially conceptualized, anyone who had been exposed to war, rape torture, natural disaster, etc., had been "traumatized" (American Psychiatric Association, 1980). This was changed in the 1994 DSM-IV (American Psychiatric Association, 1994) because it had become apparent that most people exposed to catastrophic events did not develop PTSD. Although exposure to catastrophic stress is a necessary condition, it is not sufficient by itself to "traumatize" an individual. What also matters is the emotional response of the person exposed to such an event. If the rape or accident produced an intense emotional response (characterized in DSM-IV as "fear, helplessness, or horror") the event is "traumatic." If an intense emotional response is not experienced then the event is not considered a "traumatic event" and, therefore, by the DSM definition, can not cause PTSD. Thus the concept of trauma has changed from a rare external event (DSM-III) to an individual's psychological response to an overwhelming event (DSM-IV). People who successfully cope with a catastrophic stressor without experiencing an intense emotional response, have not been "traumatized" as defined in DSM-IV. People who respond to such events with fear, helplessness or horror, on the other hand, have been traumatized by an extremely stressful experience.

WHAT IS THE HISTORY AND PREVALENCE OF POST-TRAUMATIC STRESS DISORDER (PTSD)?

With the growing recognition that catastrophic stress and traumatic events are much more common than originally suspected, it has become clear that PTSD is a significant public health problem. Although over half of all American adults will have been exposed to a catastrophic stress (60% men and 51% women) only 8% (5% men and 10% women) will have developed PTSD (Kessler et al., 1995) at some point in their lives. This means that millions of Americans will suffer from this disorder and that PTSD is a major public health problem in the USA and elsewhere. If untreated, many of these individuals will never recover. Research with veterans of World War II and survivors of the Nazi Holocaust has shown, for example, that PTSD can persist for over 50 years or for a lifetime (Schnurr, 1991).

HISTORICAL OVERVIEW

Poets and writers for many years have recognized that exposure to trauma may produce enduring psychological consequences. Homer's Iliad describes the adverse psychological transformation of the Greek hero, Achilles, after his best friend was killed during the Trojan War (Shay, 1991). Achilles suffered from guilt, rage, hyperarousal, and intense intrusive recollections about this death. Shakespeare's Henry IV provides a clinically sophisticated complaint about the traumatic combat nightmares that continually keep him awake at night. And in Tale of Two Cities, Dickens knowingly describes the chronic PTSD symptoms such as intense distress when confronted by trauma-related stimuli, avoidant behavior, and psychogenic amnesia of Dr. Manet, caused by his unjust and prolonged incarceration in the Bastille at an earlier stage of his life.

In the late nineteenth century, clinical attention began to focus on the psychological impact of military combat among veterans of the Civil War in the USA and the Franco-Prussian War in Europe. During this period, clinical formulations on both sides of the Atlantic focused either on cardiovascular (e.g., Soldier's Heart, Da Costa' Syndrome, Neurocirculatory Asthenia) or psychiatric (e.g., Nostalgia, Shell Shock, Combat Fatigue, War Neurosis) symptoms (van der Kolk, Weisaeth, & van der Hart, 1996; Cohen, White, & Johnson, 1948). Similar clinical presentations among nineteenth century civilian survivors of train accidents were called Railway Spine (Trimble, 1985). It is noteworthy throughout this period that clinicians who were asked to provide treatment for survivors of military or civilian trauma, were struck by the physiological as well as the psychological symptoms exhibited by such individuals. Indeed, Abram Kardiner, an American psychiatrist who worked extensively with World War I veterans suffering from "War Neurosis," was so impressed by the excessive startle reaction seen in these patients (Kardiner, 1941) that he called it a "*physioneurosis*" (to

incorporate both the clinically significant physiological as well as psychological changes that he believed were both a part of the "war neurosis" syndrome).

WHAT ARE THE MAIN CHARACTERISTICS OF PTSD?

As stated earlier, a person must have been traumatized by a catastrophic stressor in order to develop PTSD. The syndrome itself consists of three symptom clusters: Reexperiencing, Avoidant/Numbing, and Hyperarousal as well as criteria for persistence and severity.

Reexperiencing Symptoms are unique to PTSD in relation to other psychiatric disorders. They reflect the persistence of thoughts, feelings, and behaviors specifically related to the traumatic event. Such recollections are intrusive because they are not only unwanted but are also powerful enough to drive away consideration of anything else. Daytime recollections and traumatic nightmares often evoke panic, terror, dread, grief, or despair among people with PTSD. (Reexperiencing can elicit symptoms of psychological distress such as terror, or abnormal physiological reactions such as a racing pulse, rapid breathing, or sweating.) Sometimes people with PTSD are exposed to reminders of the trauma (trauma-related stimuli), and are suddenly thrust into an intense psychological, emotional, and/or physiological state. Sometimes trauma-related stimuli precipitate a PTSD flashback, in which they actually relive the traumatic experience, losing all connection with the present (in an acute dissociative or brief psychotic state) in which they actually behave as if they must protect themselves or fight for their lives, as was the case during exposure to the trauma, initially. For example, a woman was raped at dusk by an assailant who sprang out of the shadows opening onto an urban thoroughfare. He dragged her into the recesses of a dark alley before beginning his sexual assault. It is now many months later. She is walking home from work. The setting sun produces shadows over every nook and cranny adjacent to the sidewalk. As she glances into a heavily shadowed alley, she actually "sees" an assailant poised and ready to grab her. In fact, no one is there. The similarity between the rape scene several months ago and those produced today by an urban sunset have produced a hallucination that is, in effect, a PTSD flashback. As a result, she believes that she is, again, about to be raped and runs down the street, screaming in terror.

Avoidant/Numbing Symptoms can be understood as behavioral, cognitive, or emotional strategies to ward off the terror and distress caused by reexperiencing symptoms. Avoidant symptoms include:

- Efforts to avoid thoughts, feelings, activities, places and people related to the original traumatic event.
- *Psychogenic amnesia* (the inability to remember emotionally charged events for psychological rather than neurological reasons) for trauma-related memories. For example, a 10-year-old refugee who witnessed the massacre

of his father and brothers and the rape of his mother by Government police cannot remember this horrible episode. He remembers that the police came to the house, that he ran, hid, and eventually escaped. But he cannot remember what happened in between.

Numbing symptoms are psychological mechanisms through which PTSD sufferers anesthetize themselves against the intolerable panic, terror and pain evoked by reexperiencing symptoms. These include:

- *Psychic numbing* (the inability to feel any emotions, either positive, such as love and pleasure, or negative, such as fear or guilt. It is also described as an "emotional anesthesia" in which PTSD sufferers must suppress all feelings in order to block out the intolerable ones. This strategy comes at a very high price, for example, when someone numbs intolerable trauma-related feelings, they must also anesthetize the loving feelings that are necessary to sustain any intimate, loving relationship.

Hyperarousal Symptoms are the most apparent manifestations of the excessive physiologic arousal that is part of the PTSD syndrome. This includes insomnia, irritability, startle reactions, and hypervigilance. Such a *hyper-reactive psychophysiological state* (in which emotions are heightened and aroused and even minor events may produce a state in which the heart pounds rapidly, muscles are tense and there is great overall agitation) makes it very difficult for people with PTSD to concentrate or perform other cognitive tasks. For example, a student can't do her homework or focus on any intellectual task. This cluster of PTSD symptoms most closely resembles symptoms seen in *Panic Disorder* and *Generalized Anxiety Disorder* and is one reason why PTSD has been classified in DSM-IV as an Anxiety Disorder.

HOW SEVERE AND CHRONIC IS PTSD?

PTSD is no different than other medical or psychiatric disorders in that it's severity may vary from mild to severe. As with diabetes, heart disease, and depression, some people with PTSD are able to lead full and rewarding lives in spite of the disorder. Although there are no current statistics, it appears that a significant minority of patients may develop a persistent, incapacitating mental illness marked by severe and intolerable symptoms; marital social and vocational disability; and extensive use of psychiatric and community services. Such people can be found on the fringes of society, in homeless shelters, or enrolled in public-sector programs designed for people with persistent mental illnesses such as *schizophrenia* from which they are superficially indistinguishable (Friedman & Rosenheck, 1996).

- The long-term course for most people with chronic PTSD is marked by remissions and relapses. Some people make a full recovery, others partial improvement and others never improve. There are three general classes of those with PTSD:

• Lifetime PTSD – Forty percent of patients with *lifetime PTSD* (those who developed PTSD at any time in their life) are unlikely to recover whether or not they have ever received treatment. Some may show some improvement in functional capacity or symptom severity, but their PTSD remains chronic, severe, and permanent ().

• PTSD in Remission with Occasional Relapses – When a patient in remission, who has been without symptoms for some time, suddenly relapses and begins to exhibit the full pattern of PTSD symptoms, it is likely that s/he was recently exposed to a situation that resembled the original traumatic event in a significant way. For example, many Japanese survivors of the World War II bombing of Kobe (who had functioned well for decades) had a relapse of PTSD symptoms following the major earthquake of 1995. They reported that the physical sensations (rumbling and tremors of the earthquake), the enormous death and destruction that surrounded them, and the threat to life of loved ones and themselves, evoked long dormant memories and feelings evoked by the bombing attacks, fifty years earlier.

• Delayed Onset – There is a delayed variant of PTSD in which individuals exposed to a traumatic event do not exhibit the PTSD syndrome until months or years afterwards. As with relapse, the immediate precipitant is usually a situation that resembles the original trauma in a significant way. For example, an American Vietnam veteran whose child has been suddenly deployed to participate in a dangerous United Nations peacekeeping operation.

Because traumatic stimuli have such power to evoke emotional, behavioral and physiological reactions, it has been possible to develop treatment and research approaches in which individuals with PTSD are exposed to trauma-related stimuli in a controlled setting. For that reason Cognitive-Behavioral Treatment has proven to be very effective in ameliorating the symptoms of this disorder (Foa & Rothbaum, 1997; Rothbaum, Meadows, Resick et al., 2000). In addition, laboratory research in which subjects with PTSD are exposed to trauma-related stimuli has furthered our understanding of the biobehavioral abnormalities associated with this disorder (Pitman, Orr, Forgue et al., 1987; Friedman, 1999).

WHAT OTHER PSYCHIATRIC CONDITIONS MAY BE ASSOCIATED WITH PTSD?

A victim of trauma may suffer from psychiatric disorders in addition to *PTSD (co-morbid disorders* major psychiatric disorders that are present at the same time an individual has full-fledged PTSD) or their trauma may result in a disorder that is different from PTSD.

Co-morbid Disorders – If an individual has lifetime PTSD, it is likely that s/he will meet DSM-IV diagnostic criteria for at least one other Axis I psychiatric disorder. Indeed, in the United States 80% of all men and women with

lifetime PTSD in the National Comorbidity Study[1] also met criteria for at least one of the following: Major Depressive Disorder, Dysthymia, Generalized Anxiety Disorder, Simple Phobia, Social Phobia, Panic Disorder, Alcohol Abuse/Dependence, Drug Abuse/Dependence or Conduct Disorder. This is important to keep in mind when conducting a diagnostic assessment or formulating a treatment plan for someone suspected of having PTSD.

Other Post-Traumatic Syndromes – There is growing evidence that PTSD may not be the only clinically significant consequence of exposure to a catastrophic event. Three types of post-traumatic outcomes (in addition to PTSD), are receiving attention by clinicians and researchers.

Other Axis I Psychiatric Syndromes – There may be something biologically unique about people who develop PTSD. According to this hypothesis, people with a specific genetic disposition or psychological make-up may develop PTSD while others may make a full psychological recovery while a third group may develop depression or some other DSM-IV or ICD-10 disorder after they have been traumatized (Yehuda & McFarlane, 1995).

Medical Disorders – Growing evidence indicates that exposure to catastrophic events is a risk factor for many medical disorders affecting the cardiovascular, gastrointestinal, endocrinological, musculoskeletal, and other bodily systems. It is possible that PTSD mediates such medical problems because the disruption in major bodily systems associated with PTSD (such as the cardiovascular, hormonal or immunological systems) would be expected to jeopardize health, but research on this question is at a very preliminary stage (Friedman & Schnurr, 1995; Schnurr & Jankowski, 1999).

Other "Unofficial" Post-Traumatic Syndromes – Prolonged trauma, especially childhood sexual abuse or torture during political incarceration, may produce a clinical syndrome that differs considerably from that seen in PTSD. This syndrome provisionally called "complex PTSD" features: impulsivity, dissociation, somatization, affect lability, interpersonal difficulties, and pathological changes in personal identity (called Dissociative Identity Disorder in DSM-IV; previously called Multiple Personality Disorder in DSM-III) (Herman, 1992).

Specify:
Acute: if duration of symptoms is less than 3 months
Chronic: if duration of symptoms is 3 months or more

Specify:
With delayed onset: if onset of symptoms is at least 6 months after the stressor"

THE TRAUMATIC STRESS CRITERION

The DSM-IV definition of a traumatic event consists of two components: exposure to a catastrophic event (the A_1 criterion) and emotional distress because of such exposure (the A_2 criterion) (American Psychiatric Association, 1994).

The A_1 Exposure Criterion

As in the original DSM-III formulation for PTSD, people exposed to catastrophic events that involve actual or threatened death or serious injury meet the DSM-IV A_1 criterion. These include military combat, interpersonal violence (sexual assault, physical attack, torture, etc.), manmade/natural disasters, accidents, incarceration or exposure to war-zone/urban/domestic violence. People who are not directly endangered but who witness such events, also meet the A_1 criterion. In addition, people who witness the violent aftermath of a catastrophic event (such as dead body parts) but who were never in personal danger themselves, also meet the A_1 criterion. Finally, DSM-IV has added "confronted with" a life threatening event to the A_1 criterion. This often occurs when a family member or close friend learns that a loved one has died or been seriously injured during an catastrophic event, even though the person "confronted with" this terrible news has never been in any personal danger him or herself.

> "Mothers of the Disappeared" are women whose children were arrested by police during the state sponsored terrorism of the "Dirty War" in Argentina when the military junta arrested, incarcerated, tortured, and often executed individuals whom they considered subversive. The mothers may or may not have witnessed the event, but they witnessed nothing more. In all cases, however, the continued disappearance of their children meant that they may have been executed. According to DSM-IV, these mothers have all suffered exposure to an A_1 event, because they have been "confronted with" the probable execution of their children.

The A_2, Distress, Criterion

People are different. Some people exposed to an A_1 event will experience severe psychological distress, characterized in DSM-IV as "fear, helplessness, or horror", others will not experience significant distress and still others may have a delayed response.

- Those who Experience Significant Distress – Those people who exhibit intensive distress following an A_1 event, meet the PTSD A criterion and can be said to have been "traumatized."

- Those who do not Experience Significant Distress – Those who cope with an A_1 event without exhibiting "fear, helplessness or horror" do not meet the PTSD A criterion, have not been "traumatized," and cannot have PTSD (or ASD). Some people who are exposed to A_1 events continually because of their professional responsibilities including military, police, emergency medical personnel and mental health professionals may be at greater risk to experience A_2 distress. However, it is by no means certain that they will do so. Furthermore, effective measures can help professionals cope with an A_2 response when it does occur in the line of duty.

- Delayed Onset of Distress Response – Fear, helplessness, or horror need not occur at the time of the A_1 event but sometimes may flare up many years later. For example, young children who have been sexually abused, may not have experienced significant distress (an A_2 response) at the time of the sexual assault. Years later (often as adolescents or adults), long after the abuse has stopped, they may realize that they were coerced to participate in such sexual behavior by a powerful adult against whom they were helpless and on whom they were dependent. Such retrospective reconstruction may transform a complicated and vaguely uncomfortable memory into a shocking recollection of and A1, sexual assault. The new emotional response to what has just become reconceptualized as an A_1 event, may now be experienced as fear, helplessness or horror. The childhood sexual abuse has been transformed into a traumatic experience and such individuals may develop PTSD.

Children, especially children six and younger who lack an adult's capacity for abstract thinking or linguistic expression, may express their emotional reaction (A2 reaction), behaviorally rather then verbally through developmentally appropriate non-verbal indicators of psychological distress such as disorganized or agitated behavior or during play.

Further, A_1 events differ considerably in their capacity to evoke psychological distress. For example, suffering injury because of a perpetrator's willful, violent, personal intent is much more distressing than suffering injury because of an impersonal accident or natural disaster. This is a major reason why 46% of women who have been raped develop PTSD in comparison to only 9% of women involved in an accident.[1]

Now that we've reviewed the Stressor (A) criterion, we'll present a case history that illustrates the other symptom clusters of PTSD. Although an individual does not need to have more than one Reexperiencing (B), three Avoidant\Numbing (C) and two hyperarousal (D) symptoms to meet DSM-IV diagnostic criteria for PTSD (as stated in Table 1), it is not at all unusual for a

traumatized person to exhibit most, if not all, B, C, and D symptoms, as illustrated in the present example.

Martha S. was a 32-year-old, single, white, graduate of a prestigious business school, now embarked upon a highly successful career at a major industrial corporation. She lived alone in an upscale garden apartment that had security guards on duty round-the-clock. One night, after returning home from a dinner party, she entered her living room to discover two bearded men in shabby clothes robbing her apartment. Before she could flee or cry out, the taller of the two grabbed her by the hair, covered her face with a pillow, and threw her down on the couch. While he held her down, his partner tore off her clothes and raped her. When he was done, his partner did the same. When the partner had finished, he pulled out a knife and stabbed her through the ribs so deeply that the knife penetrated her heart. She remembers how terrified she was throughout the episode, the excruciating pain in her chest from the knife wound, and the overwhelming fear that she was about to die. She has no further memories of the two assailants who escaped with her television, jewelry, and other prize possessions. What she does remember is the blood oozing out of her chest. She remembers how it smelled and how warm and slippery it was as she crawled on her belly across the living room rug, somehow getting through the front door, and reaching her neighbor's apartment across the hall. She doesn't really remember ringing his door bell or telling him what had happened. She must have succeeded, however, since an ambulance was called, she was rapidly transported to the hospital, survived the open heart surgery, and convalesced without complications.

After discharge from the hospital she went immediately to he childhood home to stay with her mother for several months until she felt strong enough to return to work. She was very optimistic on the eve of her return back to the city where she lived. She enjoyed the plane trip west and felt good on the taxi ride in from the airport. When she entered her apartment, however, she was overwhelmed by growing anxiety, especially in the living room. When darkness fell, the anxiety escalated to terror. She began to have vivid recollections of her two assailants and from time-to-time thought she actually saw them hiding behind the living room curtains although she knew that her mind was playing tricks on her. She also knew that she couldn't stand to be alone in her apartment and left to spend the night with a girlfriend who lived nearby.

She never returned to her apartment except to get her things and move elsewhere. Even in her new lodgings, however, she felt unsafe, especially after dark, and had frequent nightmares about the rape. It was difficult for her to perform at work as before. Attempts to focus on work were constantly interrupted by trauma-related images and she couldn't experience the old excitement and enjoyment of the vocational challenges that she had relished months before. She found herself obsessed with fears about personal safety. Whereas, previously she had been open, adventurous, and gregarious, she was now fearful, withdrawn, suspicious, and jumpy. She abruptly discontinued what had been a satisfying sexual relationship with a man for whom she cared. And she became panic stricken when bearded men, especially bearded men wearing shabby clothes, came anywhere near her.

Individuals can only develop PTSD if they have been exposed to a traumatic event. As operationalized in the DSM-IV and shown in Table 1 (as the "A1" criterion), traumatic events "involve actual or threatened death or serious

injury, or a threat to the physical integrity of oneself or others." Certainly the near lethal and sexual assault experienced by Martha S. meets this definition

As stated earlier, clinical experience with the PTSD diagnosis has shown that most people who are exposed to a catastrophic event do not develop PTSD. Indeed, there are vast individual differences regarding the capacity to cope with a traumatic event and different people may have a different psychological response to the same catastrophic event. Such observations have prompted a recognition that trauma, like pain, is not an external phenomenon that can be completely objectified. Like pain, the traumatic experience is filtered through a cognitive and emotional process called appraisal. Therefore, the same event may be appraised by some as a severe threat, while others will consider it a challenge with which they can cope. Because appraisal plays such an important role in the psychological processing of a catastrophic event, DSM-IV added the "A2" criterion (Table 1) to the definition of trauma; "the individual's response must involve an intense emotional reaction such as fear, helplessness, or horror." In other words, exposure to a catastrophic event can only be considered traumatic, if such exposure precipitates an intense emotional reaction. This is certainly true for Martha S. who was terrified, painfully injured and fearful that she would die during her terrible ordeal. Although appraisal is an important issue in many catastrophic events, such as accidents and natural disasters, the experience of most people exposed to interpersonal violence usually meets the DSM-IV definition of trauma.

The "B" or re-experiencing criterion includes symptoms that are perhaps the most distinctive and readily identifiable manifestations of this disorder. For individuals with PTSD, the traumatic event remains, sometimes for decades or a lifetime, a dominating psychological experience that retains its power to evoke panic, terror, dread, grief, or despair as daytime intrusive recollections as traumatic nightmares and as psychotic re-enactments known as PTSD flashbacks. For Martha S. such reexperiencing symptoms were so severe that she had to move from her apartment, could not keep her mind on her work, and altered her behavior and lifestyle significantly. PTSD symptoms are often triggered by stimuli or situations that are reminiscent of the initial traumatic event. For that reason, researchers can reproduce PTSD symptoms in the laboratory by exposing affected individuals to stimuli that are associated with the original traumatic event (Pitman et al., 1987; Friedman, 1999). That is why fear conditioning has been proposed as one conceptual model for PTSD (Kolb, 1987; Foa & Rothbaum, 1997). Martha S. exhibits this phenomenon in a number of ways. First, she became initially symptomatic when reexposed to the stimuli of her apartment where she had been raped and almost murdered. Her symptoms intensified at night (the time of the trauma) when it became dark. She became so terrified that she had PTSD flashbacks in which she "saw" her assailants hiding behind the curtains. She terminated a sexual relationship, which she had previously enjoyed, partly because stimuli associated with sexual activity triggered intolerable

recollections of the rape. Finally, her new fear of bearded men, based on this distinguishing facial characteristic of both assailants, shows how trauma-related stimuli can change in the behavior of a woman who had never exhibited such fears before she was raped and almost killed. This also illustrates how PTSD patients appraise the world as a dangerous place and become easily alarmed by any stimulus that has become associated with the traumatic experience.

The "C" or avoidant/numbing criterion consists of symptoms reflecting behavioral cognitive, or emotional strategies by which PTSD patients attempt to reduce the likelihood that they will either expose themselves to trauma-related stimuli, or if exposed will minimize the intensity of their psychological response. Behavioral strategies include avoiding any situation in which they perceive a risk of confronting such stimuli. In its most extreme manifestation, avoidant behavior may superficially resemble agoraphobia because the person with PTSD is afraid to leave the house for fear of confronting reminders of the traumatic event(s). For Martha S. avoidant behaviors included moving out of her apartment, avoiding social situations, terminating a sexual relationship, and avoiding bearded men.

Numbing symptoms are psychological, rather than behavioral, strategies by which individuals reduce or obliterate the conscious experience of trauma-based memories and feelings. Such symptoms include amnesia for traumatic events, dissociation, feelings of detachment, and a restricted range of affect. Individuals with PTSD cannot tolerate strong emotions, especially those associated with the traumatic experience. They separate the cognitive from the emotional aspects of psychological experiences and perceive only the former. Such "psychic numbing" is an emotional anesthesia that makes it extremely difficult for people with PTSD to participate in meaningful interpersonal relationships. That is another reason why Martha S. terminated her relationship with the man with whom she had previously enjoyed a very satisfactory emotional and sexual relationship.

Criterion "D" includes arousal symptoms such as insomnia, irritability, and inability to concentrate (all exhibited by Martha S.) that are often found in other anxiety disorders such as panic and generalized anxiety disorder. Hypervigilance and an exaggerated startle response (both also exhibited by Martha S.) are more characteristic of PTSD. Hypervigilance is a manifestation of the traumatized person's perpetual surveillance of her environment to detect any signs of danger that might provoke another traumatic episode. The hypervigilance in PTSD may sometimes become so intense as to appear like frank paranoia. The agitation and jumpiness seen in PTSD is a manifestation of the exaggerated startle response, a hard-wired neurological reflex that is abnormally resistant to extinction in patients with this disorder (Shalev, Orr, Peri et al., 1992).

Martha S. also met the "E" criterion because her symptoms persisted for more than a month and the "F" criterion because her PTSD caused clinically significant distress and impairment in several functional domains.

Table 1

DSM-IV Diagnostic Criteria for Posttraumatic Stress Disorder

A. The person has been exposed to a traumatic event in which both of the following were present:
   1. The person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others
   2. The person's response involved intense fear, helplessness, or horror.

B. The traumatic event is persistently reexperienced in one (or more) of the following ways:
   1. Recurrent and intrusive distressing recollections of the event, including images, thoughts, or perceptions.
   2. Recurrent distressing dreams of the event.
   3. Acting or feeling as if the traumatic event were recurring (includes a sense of reliving the experience, illusions, hallucinations and dissociative flashback episodes.
   4. Intense psychological distress at exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event
   5. Physiological reactivity (such as increased heart rate, blood pressure, and breathing resulting from exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event)

C. Persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness (not present before the trauma), as indicated by three (or more) of the following:
   1. Efforts to avoid thoughts, feelings, or conversations associated with the trauma
   2. Efforts to avoid activities, places, or people that arouse recollections of the trauma
   3. Inability to recall an important aspect of the trauma
   4. Markedly diminished interest or participation in significant activities
   5. Feeling of detachment or estrangement from others
   6. Restricted range of affect (e.g., unable to have loving feelings).
   7. Sense of a foreshortened future (e.g., does not expect to have a career, marriage, children, or a normal life span)

D. Persistent symptoms of increased arousal (not present before the trauma, as indicated by two (or more) of the following:
   1. Difficulty falling or staying asleep
   2. Irritability or outbursts of anger
   3. Difficulty concentrating
   4. Hypervigilance
   5. Exaggerated startle response

E. Duration of the disturbance (symptoms in Criteria B, C, and D) is more than one month.

F. The disturbance causes clinically significant distress or impairment in social, occupation, or other important areas of functioning.

DIAGNOSING PTSD

Diagnosing PTSD can take several meetings in which a careful interview is conducted, including asking questions on risk factors for PTSD and ruling out other possible disorders. Additionally, assessment tools such as structured interviews or psychometric instruments may be utilized.

Conducting an Interview

In general, PTSD is not a difficult diagnosis to make if the clinician keeps the diagnostic criteria in mind. It is essential, however, that the diagnostic interview be conducted in a manner that acknowledges the patient's worst fears and that is conducted in an environment of sensitivity, safety and trust. After all, the clinician is asking the PTSD patient to take a tremendous risk and abandon all the avoidance behaviors, protective strategies and other psychological strategies that have developed to buffer the patient from the intolerable memories and feelings associated with the traumatic event. In the case of chronic PTSD where such protective layers have solidified for years or decades, the clinician must be patient and obtain the trauma history at a pace that the patient can tolerate. It is usually helpful if the clinician lets the patient know immediately that s/he recognizes how difficult it must be for the patient to answer these questions. It is also helpful for the clinician to ask the patient to let him or her know when the interview has become too upsetting and to back off immediately when the patient says that it is so. By exhibiting clinical behavior that communicates patience, sensitivity and competence it is usually possible to obtain a thorough diagnostic assessment from the most anxious, avoidant, and hypervigilant patient.

Discussion of the many assessment instruments that can be utilized in diagnosing PTSD is beyond the scope of this article, but can be found elsewhere (Wilson & Keane, 1996).

Risk Factors for PTSD

Since most people who are traumatized do not develop PTSD, it is important to know who might be at greater risk than others. The following factors listed in Table 2 are associated with greatest risk for PTSD (Fairbank, Schlenger, Saigh et al., 1995)

Comorbidity

A final issue in the diagnostic assessment of PTSD is that of comorbidity. In the National Comorbidity Survey (Kesser et al., 1995) it was found that approximately 80% of all men or women who have ever had PTSD had at least one other affective, anxiety, or chemical use/dependency disorder as shown in

Table 3. One reason for such high prevalence of comorbid disorders is because of the symptom overlap between PTSD and these other Axis I diagnoses. In general if all criteria for PTSD and another disorder are met, then multiple diagnoses need to be made.

Table 2

Risk Factors for PTSD

Pre-Traumatic Risk Factors	Traumatic Risk Factors	Post-Traumatic Risk Factors
• Female gender – Women are twice as likely as men to develop PTSD at some point in their lives. • Younger age (e.g., young adults less than 25) • Less than a college education • Childhood Trauma (e.g., sexual abuse) • Childhood adversity such as economic deprivation or parents separated or divorced before the child is age 10 • Previous exposure to child trauma (e.g. child abuse, rape, war, motor vehicle accidents) • Childhood Conduct Disorder (e.g., Attention Deficit Hyperactivity Disorder) • Personal or family history of a prior psychiatric disorder (of any kind) • Presence of a personality disorder • Exposure to trauma as an adult • Adverse life events (such as divorce, loss of job, failure at school) • Poor physical health and financial problems (such as serious debt or a sudden financial setback)	• Severity ("dose") of the trauma is a good predictor of PTSD - the greater the magnitude of trauma exposure, the greater the likelihood that an individual will develop PTSD. • Nature of the trauma – Interpersonal violence (e.g., rape, physical attack, torture, war-zone trauma) in which there is a human perpetrator is much more likely to produce PTSD than an impersonal event such as a natural disaster. • Psychological response during or shortly after the trauma (such as dissociation) • Physiological response during or shortly after the trauma (such as extreme elevation of blood pressure or heart rate) • Participation in atrocities (either as a perpetrator or witness), has been shown to be a risk factor among Vietnam and other military veterans.	• Post Traumatic Reaction (such as the development of Acute Stress Disorder) • Poor social support • Possibly failure to receive timely post-traumatic clinical intervention) – Timely post-traumatic clinical intervention has been proposed as a protective factor that will reduce the risk for trauma survivors to develop PTSD subsequently. This is a very controversial proposition at this time.

Table 3

DSM-IV Disorders Frequently Comorbid with PTSD in the United States
from the National Comorbidity Survey[1]

Lifetime

Diagnosis	Prevalence	Remarks
Major Depressive Disorder	48%	
Dysthymia	22%	
Generalized Anxiety Disorder	16%	
Simple Phobia	30%	
Social Phobia	28%	
Panic Disorder	12.6% vs. 7.3%	women>men
Agoraphobia	22.4% vs. 16.1%	women>men
Alcohol Abuse/Dependence	51.9% vs. 27.9%	men>women
Drug Abuse/Dependence	34.5% vs. 26.9%	men>women
Conduct Disorder	43.3% vs. 15.4%	men>women

Looking Ahead

As noted earlier, most PTSD research and most clinical applications of that research have focused on military veterans, rape victims, and survivors of natural disasters. That research has deepened our understanding of fundamental biobehavioral mechanisms on the one hand and promoted the development of promising therapeutic interventions on the other. It is time to expand this focus to other domains, with special attention to interpersonal violence and abuse.

Since the majority of traumatized people do not develop PTSD, we must try to identify risk and protective factors concerning the psychological impact of trauma. We must try to understand whether there is something unique about the trauma of interpersonal violence, something that generates a distinctive pathophysiology, and something that will require a different kind of clinical intervention than has been found effective for PTSD patients exposed to other kinds of trauma. The PTSD field has grown rapidly. There are many animal models, laboratory paradigms, assessment instruments and conceptual approaches. A rich body of experimental and clinical data has already been developed. It is a good time to make a major effort to apply this knowledge to increase our understanding of the psychological impact of interpersonal violence, state-sponsored terrorism, repressive governments and social upheaval.

REFERENCES

American Psychiatric Committee on Nomenclature and Statistics ed. (1980). *Diagnostic and Statistical Manual of Mental Disorders, Third Edition.* American Psychiatric Association, Washington, DC.

American Psychiatric Committee on Nomenclature and Statistics ed. (1994). *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition.* American Psychiatric Association, Washington, DC.

Cohen, M.E., White, P.D., & Johnson, R.E. (1948). *Neurocirculatory asthenia, anxiety neurosis, or the effort syndrome.* Archives of Internal Medicine, 81, 260-281.

Fairbank, J.A., Schlenger, W.E., Saigh, P.A., & Davidson, J.R.T. (1995). An epidemiologic profile of post-traumatic stress disorder: Prevalence, comorbidity, and risk factors. In M.J. Friedman, D.S. Charney, A.Y. Deutch (Eds.), *Neurobiological and clinical consequences of stress: From normal adaptation to post-traumatic stress disorder* (pp. 415-427), Lippincott-Raven, Philadelphia, PA.

Foa, E.B., & Rothbaum, B.O. (1997). *Treating the trauma of rape: A cognitive-behavioral therapy for PTSD.* Guilford, New York.

Friedman, M.J., & Schnurr, P.P. (1995). The relationship between trauma and physical health. In M.J. Friedman, D.S. Charney, & A.Y. Deutch (Eds.), *Neurobiological and clinical consequences of stress: From normal adaptation to post-traumatic stress disorder* (pp. 507-526), Lippincott-Raven, Philadelphia, PA.

Friedman, M.J. (1999). *Progress in psychobiological research on PTSD.* Seminars in Clinical Neuropsychiatry, 4, 230-233.

Friedman, M.J., & Rosenheck, R.A. (1996). PTSD as a persistent mental illness. In S. Soreff (Ed.), *The seriously and persistently mentally ill: The state-of-the-art treatment handbook* (pp. 369-389), Hogrefe & Huber, Seattle, WA.

Herman, J.L. (1992). *Complex PTSD: A syndrome in survivors of prolonged and repeated trauma.* Journal of Traumatic Stress, 5, 377-391.

Kardiner, A. (1941). *The traumatic neurosis of war.* Paul B. Hoeber, New York.

Kessler, R.C., Sonnega, A., Bromet, E., Hughes, M., & Nelson, C.B. (1995). *Posttraumatic stress disorder in the National Comorbidity Survey.* Archives of General Psychiatry, 52, 1048-1060.

Kolb, L.C. (1987). *A neuropsychological hypothesis explaining post-traumatic stress disorders.* American Journal of Psychiatry, 144, 989-995.

Pitman, R.K., Orr, S.P., Forgue, D.F., De Jong, J.B., & Claiborn, J.M. (1987). *Psychophysiologic assessment of posttraumatic stress disorder imagery in Vietnam combat veterans.* Archives of General Psychiatry, 44, 970-975.

Rothbaum, B.O., Meadows, E.A., Resick, P., & Foy, D.W. (2000). Cognitive-behavioral treatment. In E.B. Foa, T.M. Keane, & M.J. Friedman (Eds.), *Effective treatments for post-traumatic stress disorder: Practice guidelines from the International Society for Traumatic Stress Studies* (pp. 60-83), Guilford, New York.

Schnurr, P.P., & Jankowski, M.K. (1999). *Physical health and posttraumatic stress disorder: Review and synthesis.* Seminars in Clinical Neuropsychiatry, 4, 295-304.

Schnurr, P.P. (1991). *PTSD and combat-related psychiatric symptoms in older veterans.* PTSD Research Quarterly, 2, 1-6.

Shalev, A.Y., Orr, S.P., Peri, T., Schreiber, S., & Pitman, R.K. (1992). *Physiologic responses to loud tones in Israeli patients with posttraumatic stress disorder.* Archives of General Psychiatry, 49, 870-875.

Shay, J. (1991). *Learning about combat stress from Homer's Iliad.* Journal of Traumatic Stress, 4, 561-579.

Trimble, MR. (1985). Post-traumatic stress disorder: History of a concept. In C.R. Figley (Ed.), *Trauma and its wake: Volume 1: The study and treatment of post-traumatic stress disorder* (pp. 5-14), Brunner/Mazel, New York.

van der Kolk, B.A., Weisaeth, L., & van der Hart, O. (1996). History of trauma in psychiatry. In B.A. van der Kolk, A.C. McFarlane & L. Weisaeth (Eds.), *Traumatic stress: The effects of overwhelming experience on mind, body, and society* (pp. 47-74), Guilford, New York.

Wilson, J.P., & Keane, T.M. (1996). *Assessing psychological trauma and PTSD.* Guilford, New York.

Yehuda, R., & McFarlane, A.C. (1995). *Conflict between current knowledge about posttraumatic stress disorder and its original conceptual basis.* American Journal of Psychiatry, 152, 1705-1713.